

C1  
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AS  
4. (Amended) A vector comprising at least one nucleic acid of claim 62.

5. (Amended) An expression cassette comprising at least one nucleic acid of claim 62 operably linked to a promoter, wherein the nucleic acid is in sense or antisense orientation.

A6  
9. (Amended) A transgenic plant comprising an isolated nucleic acid of claim 1.

A7  
11. (Amended) A transgenic seed from the transgenic plant of claim 9.

12. (Amended) The transgenic seed from the transgenic plant of claim 10.

A8  
15. (Amended) A ribonucleic acid sequence comprising a polynucleotide of claim 62.

A9  
30. (Amended) The method of claim 93 wherein the at least one polynucleotide is operably linked to a promoter driving expression in the plant cell.

31. (Amended) The method of claim 93 further comprising growing the transformed embryo under plant growing conditions to produce a regenerated plant.

32. (Amended) The method of claim 93 wherein the plant cell is from corn, soybean, sorghum, wheat, rice, alfalfa, sunflower, canola or cotton.

33. (Amended) A plant produced by the method of claim 93.

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43. (Amended) The method of claim 94 wherein the at least one polynucleotide is operably linked to a promoter driving expression in a plant cell.
44. (Amended) The method of claim 94 further comprising suppressing in the plant cell the expression of an FIE polycomb polynucleotide using sense or antisense methods.
45. (Amended) The method of claim 94 further comprising growing the somatic embryo under plant growing conditions to produce a regenerated plant.
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47. (Amended) The method of claim 94 wherein the at least one polynucleotide is expressed in integument or nucellus tissue.
48. (Amended) A plant produced by the method of claim 94.
49. (Amended) The plant of claim 48, wherein the plant is male sterile.

Please add new claims 62-94 have been added as follows:

- A12 Sub 22
62. An isolated nucleic acid capable of modulating the level of LEC1 protein, the isolated nucleic acid comprising a member selected from the group consisting of:
- (a) a polynucleotide which encodes a polypeptide of SEQ ID NO: 2;
  - (b) a polynucleotide comprising at least 20 contiguous bases of SEQ ID NO: 1;
  - (c) a polynucleotide having at least 80% sequence identity to the entire sequence of SEQ ID NO: 1, wherein the % sequence

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identity is determined by GAP analysis using Gap Weight of 50 and Length Weight of 3;

- (d) a polynucleotide which selectively hybridizes under high stringency conditions to the polynucleotide of SEQ ID NO: 1;
- (e) a polynucleotide having the sequence set forth in SEQ ID NO: 1; and
- (f) a polynucleotide fully complementary to a polynucleotide of (b) through (e).

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- 63. An isolated nucleic acid capable of modulating the level of LEC1 protein, the isolated nucleic acid comprising a polynucleotide which encodes a polypeptide of SEQ ID NO: 2 or a polynucleotide fully complementary thereof.
- 64. An expression cassette comprising the isolated nucleic acid of claim 63.
- 65. A transgenic plant cell comprising the isolated nucleic acid of claim 63.
- 66. A transgenic plant comprising the isolated nucleic acid of claim 63.
- 67. A transgenic plant seed comprising the isolated nucleic acid of claim 63.

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- 68. An isolated nucleic acid capable of modulating the level of LEC1 protein, the isolated nucleic acid comprising a polynucleotide comprising at least 20 contiguous bases of SEQ ID NO: 1 or a polynucleotide fully complementary thereof.

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- 69. An expression cassette comprising the isolated nucleic acid of claim 68.

- A12  
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70. A transgenic plant cell comprising the isolated nucleic acid of claim 68.
71. A transgenic plant comprising the isolated nucleic acid of claim 68.
72. A transgenic plant seed comprising the isolated nucleic acid of claim 68.
73. An isolated nucleic acid capable of modulating the level of LEC1 protein, the isolated nucleic acid comprising a polynucleotide having at least 80% sequence identity to the entire sequence of SEQ ID NO: 1, wherein the % sequence identity is determined by GAP analysis using Gap Weight of 50 and Length Weight of 3 or a polynucleotide fully complementary thereof.
74. An expression cassette comprising the isolated nucleic acid of claim 73.
75. A transgenic plant cell comprising the isolated nucleic acid of claim 73.
76. A transgenic plant comprising the isolated nucleic acid of claim 73.
77. A transgenic plant seed comprising the isolated nucleic acid of claim 73.
- Sus B4 78. An isolated nucleic acid capable of modulating the level of LEC1 protein, the isolated nucleic acid comprising a polynucleotide which selectively hybridizes under high stringency conditions to the polynucleotide of SEQ ID NO: 1 or a polynucleotide fully complementary thereof.
79. An expression cassette comprising the isolated nucleic acid of claim 78.
80. A transgenic plant cell comprising the isolated nucleic acid of claim 78.

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C'cont.

81. A transgenic plant comprising the isolated nucleic acid of claim 78.
82. A transgenic plant seed comprising the isolated nucleic acid of claim 78.
83. An isolated nucleic acid capable of modulating the level of LEC1 protein, the isolated nucleic acid comprising a polynucleotide having the sequence set forth in SEQ ID NO: 1 or a polynucleotide fully complementary thereof.
84. An expression cassette comprising the isolated nucleic acid of claim 83.
85. A transgenic plant cell comprising the isolated nucleic acid of claim 83.
86. A transgenic plant comprising the isolated nucleic acid of claim 83.
87. A transgenic plant seed comprising the isolated nucleic acid of claim 83.
88. An isolated nucleic acid capable of modulating the level of LEC1 protein, the isolated nucleic acid comprising a polynucleotide encoding a polypeptide comprising the sequence set forth in SEQ ID NO: 23, wherein the polynucleotide is from a plant other than *Arabidopsis*.
89. An expression cassette comprising the isolated nucleic acid of claim 88.
90. A transgenic plant cell comprising the isolated nucleic acid of claim 88.
91. A transgenic plant comprising the isolated nucleic acid of claim 88.

*C' (ent)*  
92. A transgenic plant seed comprising the isolated nucleic acid of claim 88.

- A' 1/2  
C' 1/2*
93. A method for inducing somatic embryogenesis in a plant cell, the method comprising introducing into the plant cell at least one LEC1 polynucleotide and growing the plant cell under conditions sufficient to stimulate the production of a somatic embryo, wherein the at least one LEC1 polynucleotide comprises a member selected from the group consisting of:
- (a) a polynucleotide which encodes a polypeptide of SEQ ID NO: 2;
  - (b) a polynucleotide having at least 80% sequence identity to the entire sequence of SEQ ID NO: 1, wherein the % sequence identity is determined by GAP analysis using Gap Weight of 50 and Length Weight of 3;
  - (c) a polynucleotide which selectively hybridizes under high stringency conditions to the polynucleotide of SEQ ID NO: 1; and
  - (d) a polynucleotide having the sequence set forth in SEQ ID NO: 1.

94. A method for inducing apomixis in a cell of a plant seed, the method comprising introducing into the cell at least one LEC1 polynucleotide and growing the cell under conditions sufficient to stimulate the production of a somatic embryo, wherein the at least one LEC1 polynucleotide comprises a member selected from the group consisting of:
- (a) a polynucleotide which encodes a polypeptide of SEQ ID NO: 2;
  - (b) a polynucleotide having at least 80% sequence identity to the entire sequence of SEQ ID NO: 1, wherein the % sequence identity is determined by GAP analysis using Gap Weight of 50 and Length Weight of 3;

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- (c) a polynucleotide which selectively hybridizes under high stringency conditions to the polynucleotide of SEQ ID NO: 1;  
and
- (d) a polynucleotide having the sequence set forth in SEQ ID NO: 1. --
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